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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,886	02/07/2005	Marian Faur	21.1100	4417
23718	7590	01/17/2006		
SCHLUMBERGER OILFIELD SERVICES 200 GILLINGHAM LANE MD 200-9 SUGAR LAND, TX 77478				
			EXAMINER KHUU, HIEN DIEU THI	
			ART UNIT 2863	PAPER NUMBER

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/523,886	Applicant(s) FAUR ET AL.	
	Examiner Cindy D. Khuu	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/07/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification Objections

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it exceeds 150 words in length and contains a legal phraseology term "comprising" (Line 4) and "further comprises" (Lines 6-7). Correction is required. See MPEP § 608.01(b).

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.

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- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC
(See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)),
"Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are
permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche
Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is
required on paper if the application discloses a nucleotide or amino acid sequence as
defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an
electronic document on compact disc).

Claim Objections

Claim 17 is objected to because of the following informality: The words "thanks to the result of the analysis respectively of the local velocity measurements and the local volumetric fraction measurements" (Lines 3-4) should be removed. It does not anticipate to limitations that applicant regards. Correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Carlson (US 4,441,362).

With respect to claims 13 and 22, Carlson discloses a method for calculating the relative volumetric flow-rates of at least one of the phases of a multiphase effluent flowing in a well, said method comprising a first step of acquiring local volumetric fractions and/or velocities of said phases across a section of the well at a certain depth (Fig. 1; Column 4, lines 45-55), and said method further comprising: correcting (correlated) said local volumetric fraction and/or velocity (flow rate) measurements in order to make them consistent (equivalent) with each other and/or with the effluent (fluid; oil, water and gas) flow conditions (Column 11, lines 45-52); selecting a suitable flow model mathematically (Equation 1; functional relation) representing the effluent flow (Column 11, lines 40 and 58); interpolating said local volumetric fractions (H_w or H_o) measurements (equate from known values; ρ_m , ρ_o , ρ_w) and/or said local velocity (flow rate) measurements by the selected flow model in order to obtain a volumetric fraction profile and/or a velocity profile for at least one phase of the effluent across said section of the well at said depth (Column 11, lines 35-55); calculating the relative volumetric flow rates (BPD_w or BPD_o) of said at least one phase (water or oil) by integration of said volumetric fraction (H_w or H_o) and/or velocity profiles over said section of the well at said depth (Column 15, lines 43-47).

With respect to claims 14 and 22, Carlson further discloses wherein the correcting step comprises correction of the systematic measurement errors due to measurement means (Column 14, lines 26-28; Column 11, lines 10-20).

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With respect to claims 15 and 22, Carlson further discloses wherein the correcting step comprises checking coherence of the local volumetric fraction measurements between themselves and/or coherence of the local velocity measurements between themselves (equivalent conditions; Column 11, lines 42-55).

With respect to claims 16 and 22, Carlson further discloses wherein the correcting step comprises checking for mutual coherence (functional relation) between the local volumetric fraction measurements and the local velocity measurements (Column 11, lines 30-65).

With respect to claims 17 and 22, Carlson further discloses wherein the correcting step comprises refining (corrected) the local volumetric fraction measurements and the local velocity measurements (Column 17, lines 20-35).

With respect to claim 18, Carlson further discloses wherein the step of selecting the suitable flow model is automatically done by the analysis of the set of volumetric fractions and/or velocity measurements (Column 11, lines 60-62).

With respect to claim 19, Carlson further discloses the following steps: measuring the velocity of the cable (6) with which the volumetric fractions and velocity measurements means are lowered in the well (Fig. 1, 1) (Column 4, lines 49-53); determining the geometric (angle of deviation) characteristics of the well (Column 17, lines 31-32).

With respect to claim 20, Carlson further discloses the determination of the relative bearing of the well (96, depth recorder)(Column 5, lines 7-9).

With respect to claim 21, Carlson further discloses wherein the step of selecting the flow model is verified after some corrections have been done on the local volumetric fraction and velocity measurements (Column 17, lines 10-35).

With respect to claim 23, Carlson further discloses wherein the local volumetric fraction measurements are the water volumetric fraction (equation 1; Fig. 6) and/or the gas volumetric fraction in

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the well effluent, the oil volumetric fraction (equation 2) in the effluent being deduced from the previous one(s).

With respect to claim 24, Carlson further discloses wherein the local velocity (speed) measurements are acquired by a set of spinners (pivots; 42a-b)(Column 6, lines 13-16).

Conclusion

The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Dussan et al. (US 6,075,611), Ramos et al. (US 6,016,191), Carlson et al. (US 5,586,027), and Song (US 5,633,470).

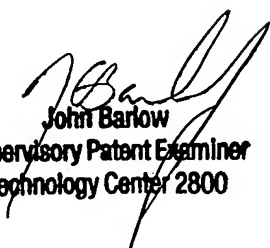
Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy D. Khuu whose telephone number is (571) 272-8585. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CHU 1/10/06


John Barlow
Supervisory Patent Examiner
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